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EXAMINER	
DANIEL JR, WILLIE J	
ART UNIT	**PAPER NUMBER**
2686	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/909,039	MAKINEN ET AL.	
	Examiner	Art Unit	
	Willie J. Daniel, Jr.	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to applicant's amendment filed on 29 June 2005. **Claims 12-36** are now pending in the present application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12-17, 19, 23-24, 27-34, and **36** are rejected under 35 U.S.C. 102(b) as being anticipated by **Endo et al**. (hereafter **Endo**) (**EP 0 847 146 A2**).

Regarding **Claim 12**, Endo discloses a method for controlling transmission power in a radio area (L1) which reads on the claimed "radio system" having a transmitting end (201) and a receiving end (202) (see col. 11, lines 10-19; Fig. 2), the method comprising:

transmitting a digital signal from the transmitting end (201) to the receiving end (202) (see col. 11, lines 10-19; Fig. 2);

receiving said digital signal at the receiving end (202) (see col. 11, lines 14-19; Fig. 2);

setting an field strength which reads on the claimed "initial value" of the transmission power so that no frame error which reads on the claimed "pseudo errors" are detected, a pseudo error defining an instant when a right bit or symbol decision was made, but a threshold value which reads on the claimed "margin" for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur (see col. 13, lines 13, lines 2-

18; col. 13, line 38 - col. 15, line 13; Figs. 3 "ref. 305", 4 "ref. 407, 408", 5-6), where the power is adjusted to a favorable level without errors;

monitoring pseudo error occurrence in the received signal at the receiving end (202) (see col. 11, lines 23-30; col. 12, lines 2-6; Figs. 3-6);

decreasing the transmission power gradually from the initial value at the transmission end (201) when the pseudo error occurrence in an error-free reception does not fulfill a threshold value which reads on the claimed "predetermined condition" (see col. 12, line 56 - col. 13, line 41; Figs. 3, 4 "411", 5, 6 "616"); and

increasing the transmission power by a predetermined amount when the pseudo error occurrence fulfills the predetermined condition in the error-free reception (see col. 12, line 56 - col. 13, line 38; col. 15, line 57 - col. 16, line 4; Figs. 3, 4 "410", 5-6).

Regarding **Claim 13**, Endo discloses a method as claimed in claim 12, wherein the predetermined condition comprises detecting the pseudo error (see col. 12, lines 56 - col. 13, line 2; col. 14, lines 5-8; Fig. 4 "402", 6 "602").

Regarding **Claim 14**, Endo discloses a method as claimed in claim 12, wherein the predetermined condition comprises detecting a second pseudo error within a predetermined period which reads on the claimed "predetermined time interval" after the last pseudo error (see col. 13, lines 13, lines 2-18; col. 13, line 38 - col. 15, line 13; Fig. 3, 4 "403").

Regarding **Claim 15**, Endo discloses a method as claimed in claim 12, wherein the predetermined condition comprises detecting a predetermined number of pseudo errors within a predetermined time interval (see col. 13, lines 13, lines 2-18; col. 13, line 38 - col. 15, line 13; Fig. 3, 4 "403", 5, 6 "603").

Regarding **Claim 16**, Endo discloses a method as claimed in claim 12, wherein the transmission power is increased immediately when the pseudo error is detected (see col. 13, lines 35-38; Figs. 4 "410", 6 "615").

Regarding **Claim 17**, Endo discloses a method as claimed in claim 12, wherein the transmission power is decreased in predetermined steps for a predetermined time period at each step (see col. 13, lines 2-18; col. 13, line 38 - col. 15, line 13; Figs. 3 and 4 '403), where the power is decreased to determine a favorable power in which the small steps would be inherent for decrementing the power.

Regarding **Claim 19**, Endo discloses method as claimed in claim 12, wherein the method further comprises

(a) adjusting the transmission power after the set-up of the radio system (L1) to the initial value high enough so that no pseudo errors are detected at the receiving end (202) (see col. 13, lines 35-38), where the power is adjusted to a level in which is favorable without errors;

(b) decreasing the transmission power until a first pseudo error is detected (see col. 13, line 38 - col. 14, line 56; Figs. 3 and 4), where the power is decreased until an error (degradation) is determined;

(c) increasing the transmission power in response to the detected pseudo error (see col. 13, line 38 - col. 14, line 56; Figs. 3 and 4), where the power is increased when an error (degradation) has been detected; and

(d) jumping to phase (b) if no pseudo errors are detected during a predetermined time period after the transmission power has been increased in phase (c) (see col. 13, line 35 - col.

15, line 13; Figs. 3 and 4), where the power is monitored for error (degradation) according to the error rate in order for the power to be increased or decreased.

Regarding **Claim 23**, Endo discloses a method as claimed in claim 12, wherein the method further comprises

monitoring the rate of actual errors at the receiving end (202) (see col. 11, lines 23-30; col. 12, lines 2-33; Figs. 3-6), and

increasing the transmission power temporarily to the maximum transmission power when a predetermined error rate threshold is exceeded (see col. 13, lines 13-44; Figs. 3 "303", 4), where the error rate exceeds the threshold and power is maximum in which the power is at maximum until adjusted to a favorable level.

Regarding **Claim 24**, Endo discloses a radio system (L1) including

at a receiving end (202), forward channel error measuring device which reads on the claimed "first means" adapted to monitor pseudo error occurrence in a received signal and to produce a report which reads on the "control signal" indicating when pseudo errors are detected and when the pseudo error occurrence in an error-free reception is below a predetermined condition, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error nearly did not occur (see col. 11, lines 20-34; col. 12, line 56 - col. 13, line 13; col. 13, line 35 - col. 15, line 13; Figs. 3-6), and

at a transmitting end (201), amplification adjustment section (108) which reads on the claimed "second means" for adjusting transmission power responsive to said control signal by decreasing the transmission power when the pseudo error occurrence in the error-free

reception does not fulfill the predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition (see col. 12, lines 44-47; col. 12, line 56 - col. 13, line 13; col. 13, line 35 - col. 15, line 13; Figs. 3-6).

Regarding **Claim 27**, Endo discloses a radio receiver (202) configured to monitor pseudo error occurrence in a received signal and to produce a control signal indicating when pseudo errors are detected and when the pseudo error occurrence in an error-free reception is below a predetermined condition, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error nearly did not occur (see col. 11, lines 20-34; col. 12, line 56 - col. 13, line 13; col. 13, line 35 - col. 15, line 13; Figs. 3-6).

Regarding **Claim 28**, Endo discloses a radio transmitter (201) configured to adjust transmission power responsive to a control signal, the control signal indicating when pseudo errors are detected in a receiver and when pseudo error occurrence in the receiver is below a predetermined condition for an error-free reception, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error nearly did not occur, by decreasing the transmission power when the pseudo error occurrence does not fulfill the predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition (see col. 12, lines 44-47; col. 12, line 56 - col. 13, line 13; col. 13, line 35 - col. 15, line 13; Figs. 3-6).

Regarding **Claim 29**, Endo discloses a control unit (202, 201) for a transmitting end of a radio link system (see Fig. 2), the control unit configured to:

set an initial value of transmission power so that no pseudo errors are detected in a received signal in a receiving end (202) of the radio link system, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur (see col. 13, lines 13, lines 2-18; col. 13, line 38 - col. 15, line 13; Figs. 3 "ref. 305", 4 "ref. 407, 408", 5-6), where the power is adjusted to a favorable level without errors; and

adjust the transmission power responsive to a power control message (e.g., instruction) received in the control unit (202, 201) by decreasing the transmission power when pseudo error occurrence in an error-free reception does not fulfill a predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition, wherein the power control message is based on information on pseudo errors detected in the received signal in the receiving end (202) and provides indication whether pseudo error occurrence in an error-free reception fulfills the predetermined condition (see col. 11, lines 30-34; col. 12, lines 34-40; col. 12, line 56 - col. 13, line 41; col. 15, line 57 - col. 16, line 4; Figs. 3, 4 "411" "410", 5, 6 "616").

Regarding **Claim 30**, Endo discloses a control unit (202) for a receiving end (202) of a radio link system (see Fig. 2), the control unit (202) configured to produce and send a power control message (e.g., instruction) based on information on pseudo errors detected in a received signal and indicating whether pseudo error occurrence in an error-free reception fulfills a predetermined condition, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur (see col. 11, lines 30-34; col. 12, lines 34-

40; col. 12, line 56 - col. 13, line 41; col. 15, line 57 - col. 16, line 4; Figs. 3, 4 "411" "410", 5, 6 "616").

Regarding **Claim 31**, Endo discloses a computer program, embodied on a computer readable medium, said computer program controlling a computing system to perform the steps of:

setting an initial value of transmission power so that no pseudo errors are detected in a received signal in a receiving end (202) of the radio link system, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur (see col. 13, lines 13, lines 2-18; col. 13, line 38 - col. 15, line 13; Figs. 3 "ref. 305", 4 "ref. 407, 408", 5-6), where the power is adjusted to a favorable level without errors; and

adjusting the transmission power responsive to a power control message (e.g., instruction) by decreasing the transmission power when pseudo error occurrence in an error-free reception does not fulfill a predetermined condition and by increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition, wherein the power control message is based on information on pseudo errors detected in the received signal in the receiving end (202) and provides indication whether pseudo error occurrence in an error-free reception fulfills the predetermined condition (see col. 11, lines 30-34; col. 12, lines 34-40; col. 12, line 56 - col. 13, line 41; col. 15, line 57 - col. 16, line 4; Figs. 3, 4 "411" "410", 5, 6 "616").

Regarding **Claim 32**, Endo discloses a computer program, embodied on a computer readable medium, said computer program controlling a computing system to perform the step

of producing a power control message (e.g., instruction) based on information on pseudo errors detected in a received signal and indicating whether pseudo error occurrence in an error-free reception fulfills a predetermined condition, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur (see col. 11, lines 30-34; col. 12, lines 34-40; col. 12, line 56 - col. 13, line 41; col. 15, line 57 - col. 16, line 4; Figs. 3, 4 "411" "410", 5, 6 "616").

Regarding **Claim 33**, Endo discloses a method for controlling transmission power in a radio link system (see col. 11, lines 10-19; Fig. 2), the method comprising:

sending a digital signal (see col. 11, lines 10-19; Fig. 2);

setting an initial value of transmission power so that no pseudo errors are detected in a received signal in a receiving end (202) of the radio link system, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur (see col. 13, lines 13, lines 2-18; col. 13, line 38 - col. 15, line 13; Figs. 3 "ref. 305", 4 "ref. 407, 408", 5-6), where the power is adjusted to a favorable level without errors;

receiving a power control message (instruction), which is based on information on pseudo errors detected in the received signal in the receiving end (202) and indicating whether pseudo error occurrence in an error-free reception is below a predetermined condition (see col. 11, lines 30-34; col. 12, lines 34-40; col. 12, line 56 - col. 13, line 41; col. 15, line 57 - col. 16, line 4; Figs. 3-6);

decreasing the transmission power from the initial value when the pseudo error occurrence in the error-free reception does not fulfill the predetermined condition (see col. 12, line 56 - col. 13, line 41; Figs. 3, 4 "411", 5, 6 "616"); and

increasing the transmission power when the pseudo error occurrence fulfills the predetermined condition (see col. 12, line 56 - col. 13, line 38; col. 15, line 57 - col. 16, line 4; Figs. 3, 4 "410", 5-6).

Regarding **Claim 34**, Endo discloses a method for controlling transmission power in a radio link system (see Fig. 2), the method comprising:

receiving a digital signal (202) (see col. 11, lines 14-19; Fig. 2);;

monitoring pseudo error occurrence in the received signal, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur (see col. 11, lines 23-30; col. 12, lines 2-6; Figs. 3-6);

producing a power control message (e.g., instruction) based on information on pseudo errors detected in the received signal and indicating whether pseudo error occurrence in an error-free reception fulfills a predetermined condition see col. 11, lines 30-34; col. 12, lines 34-40; col. 12, line 56 - col. 13, line 41; col. 15, line 57 - col. 16, line 4; Figs. 3-6); and

sending the power control message (e.g., instruction) to a transmitting end (201) of the radio link system (see col. 11, lines 30-34; col. 12, lines 34-40; Fig. 2).

Regarding **Claim 36**, Endo discloses a method for controlling transmission power in a radio area (L1) which reads on the claimed "radio system" having a transmitting end (201) and a receiving end (202) (see col. 11, lines 10-19; Fig. 2), the method comprising:

transmitting a digital signal from the transmitting end (201) to the receiving end (202) (see col. 11, lines 10-19; Fig. 2);

receiving said digital signal at the receiving end (202) (see col. 11, lines 14-19; Fig. 2);

setting an field strength which reads on the claimed "initial value" of the transmission power so that no frame error which reads on the claimed "pseudo errors" are detected, a pseudo error defining an instant when a right bit or symbol decision was made, but a threshold value which reads on the claimed "margin" for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur (see col. 13, lines 13, lines 2-18; col. 13, line 38 - col. 15, line 13; Figs. 3 "ref. 305", 4 "ref. 407, 408", 5-6), where the power is adjusted to a favorable level without errors;

monitoring pseudo error occurrence in the received signal at the receiving end (202) (see col. 11, lines 23-30; col. 12, lines 2-6; Figs. 3-6);

decreasing the transmission power gradually from the initial value at the transmission end (201) when the pseudo error occurrence in an error-free reception does not fulfill a threshold value which reads on the claimed "predetermined condition" (see col. 12, line 56 - col. 13, line 41; Figs. 3, 4 "411", 5, 6 "616"); and

increasing the transmission power by a predetermined amount when the pseudo error occurrence fulfills the predetermined condition in the error-free reception (see col. 12, line 56 - col. 13, line 38; col. 15, line 57 - col. 16, line 4; Figs. 3, 4 "410", 5-6),

monitoring occurrence of actual errors in the received signal at the receiving end (202) (see col. 11, lines 23-30; col. 12, lines 2-33; Figs. 3-6); and

overriding transmission power control based on monitoring of occurrence of pseudo errors by increasing transmission power if actual errors are observed (see col. 12, lines 24-47; col. 13, lines 35-38; Figs. 3 "ref. 305", 4 "410", 5-6), where the system controls the transmission power by overriding the lower level of transmission power to increase or adjust the transmission power to a higher level when an error is detected.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 18, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Endo et al.** (hereafter Endo) (**EP 0 847 146 A2**) in view of **Nakano et al.** (hereafter) (**US 5,873,028**).

Regarding **Claim 18**, Endo fails to disclose having the feature wherein a predetermined step is 1 dB. However, the examiner maintains that the feature wherein a predetermined step is 1 dB was well known in the art, as taught by Nakano.

In the same field of endeavor, Nakano discloses the feature wherein a predetermined step is 1 dB (see col. 6, lines 25-41; col. 7, lines 38-43; col. 5, lines 13-24; Fig. 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Endo and Nakano to have the feature wherein a predetermined step is 1 dB, in order to suppress power to a minimum level while

satisfying the required communication quality, as taught by Nakano (see col. 8, lines 51-58; col. 9, lines 55-60; col. 10, lines 31-37; col. 1, lines 14-16).

Regarding Claim 20, Endo fails to disclose having the feature wherein the predetermined amount for increasing the transmission power is 1 or 2 dB. However, the examiner maintains that the feature wherein the predetermined amount for increasing the transmission power is 1 or 2 dB was well known in the art, as taught by Nakano.

Nakano further discloses the feature wherein the predetermined amount for increasing the transmission power is 1 or 2 dB (see col. 6, lines 25-41; col. 7, lines 38-43; col. 5, lines 13-24; Fig. 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Endo and Nakano to have the feature wherein the predetermined amount for increasing the transmission power is 1 or 2 dB, in order to suppress power to a minimum level while satisfying the required communication quality, as taught by Nakano (see col. 8, lines 51-58; col. 9, lines 55-60; col. 10, lines 31-37; col. 1, lines 14-16).

Claims 21-22, 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Endo et al.** (hereinafter Endo) (**EP 0 847 146 A2**) in view of **Mallinckrodt** (**US 5,878,329**).

Regarding **Claim 21**, Endo discloses of having a decoder (102) for detecting errors that are received and interpreted to adjust the power (see col. 11, line 49 - col. 12, line 3; Figs. 1-2). Endo fails to disclose having the features using forward error correction (FEC) in the transmitted signal; decoding the signal at the receiving end by means of a FEC decoder;

and interpreting the corrections made by the FEC decoder as pseudo errors. However, the examiner maintains the features using forward error correction (FEC) in the transmitted signal; decoding the signal at the receiving end by means of a FEC decoder; and interpreting the corrections made by the FEC decoder as pseudo errors was well known in the art, as taught by Mallinckrodt.

In the same field of endeavor, Mallinckrodt teaches of

using forward error correction (FEC) in the transmitted signal (see abstract; col. 9, lines 7-41; col. 11, lines 1-21; col. 12, lines 20-35; Figs. 7 and 9),

decoding the signal at the receiving end by means of a FEC decoder (156) (see abstract; col. 9, lines 7-41; col. 11, lines 1-21; col. 12, lines 20-35; Figs. 7 and 9), and

interpreting the corrections made by the decoder as pseudo errors (see abstract; col. 9, lines 7-41; col. 11, lines 1-21; col. 12, lines 20-35; Figs. 7 and 9).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Endo and Mallinckrodt to have the features using forward error correction (FEC) in the transmitted signal; decoding the signal at the receiving end by means of a FEC decoder; and interpreting the corrections made by the FEC decoder as pseudo errors, in order to correct errors of a received signal and to have power efficiency by minimizing power transmitted from a source to a user, as taught by Mallinckrodt (see col. 12, line 20-35; col. 13, lines 33-40).

Regarding **Claim 22**, Endo discloses using at the receiving end (202) a demodulator (101) provided with a first set of thresholds and a second set of thresholds for making a decision on whether the pseudo error has occurred (see col. 11, line 49 - col. 12, line 40; col.

13, line 57 - col. 14, line 8; Figs. 1-2), where the frame error is detected and extracted to determine according to the threshold or rate if the power needs to be increased or decreased. Endo fails to disclose the feature making a decision on a received symbol. However, the examiner maintains that the feature making a decision on a received symbol was well known in the art, as taught by Mallinckrodt.

Mallinckrodt further discloses the feature making a decision on a received symbol (see col. 9, lines 35-38; 50-56; Fig. 7), where the symbol detector (152) detects the symbol errors to be interpreted to adjust the power.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Endo and Mallinckrodt to have the feature making a decision on a received symbol, in order to correct errors of a received signal and to have power efficiency by minimizing power transmitted from a source to a user, as taught by Mallinckrodt (see col. 12, line 20-35; col. 13, lines 33-40).

Regarding **Claim 25**, Endo discloses of wherein said first means (201) include a decoder (102) for decoding a signal and for detecting errors (see col. 11, line 10 - col. 12, line 3; Figs. 1-2), where the power is adjusted based according to the received errors. Endo fails to disclose having the feature a FEC decoder for decoding. However, the examiner maintains that the feature a FEC decoder for decoding was well known in the art, as taught by Mallinckrodt.

Mallinckrodt further discloses the feature a FEC decoder (156) for decoding FEC coded signal (see abstract; col. 9, lines 7-41; col. 11, lines 1-21; col. 12, lines 20-35; Figs. 7

and 9), where the FEC decoder decodes the received signal according to the forward error correction to adjust the power.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Endo and Mallinckrodt to have the feature a FEC decoder for decoding, in order to correct errors of a received signal and to have power efficiency by minimizing power transmitted from a source to a user, as taught by Mallinckrodt (see col. 12, line 20-35; col. 13, lines 33-40).

Regarding **Claim 26**, Endo discloses wherein first means (202) include a demodulator (101) provided with a first set of thresholds and a second set of thresholds for making a decision on whether the pseudo error has occurred (see col. 11, line 49 - col. 12, line 40; col. 13, line 57 - col. 14, line 8; Figs. 1-2), where the frame error is detected and extracted to determine according to the threshold or rate if the power needs to be increased or decreased. Endo fails to disclose the feature making a decision on a received symbol. However, the examiner maintains that the feature making a decision on a received symbol was well known in the art, as taught by Mallinckrodt.

Mallinckrodt further discloses the feature making a decision on a received symbol (see col. 9, lines 35-38; 50-56; Fig. 7), where the symbol detector (152) detects the symbol errors to be interpreted to adjust the power.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Endo and Mallinckrodt to have the feature making a decision on a received symbol, in order to correct errors of a received signal

and to have power efficiency by minimizing power transmitted from a source to a user, as taught by Mallinckrodt (see col. 12, line 20-35; col. 13, lines 33-40).

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Endo et al.** (hereinafter Endo) (EP 0 847 146 A2) in view of **Tiedemann et al.** (hereinafter Tiedemann) (**US 5,822,318**).

Regarding **Claim 35**, Endo discloses a decoder (102) for a radio link system (see Figs. 1-2), the decoder (102) comprising:

wherein the error signal provides information for producing a control signal, the control signal indicating whether pseudo errors are detected in a received signal and whether the pseudo error occurrence in an error-free reception fulfills a predetermined condition, a pseudo error defining an instant when a right bit or symbol decision was made, but a margin for the right bit or symbol decision was smaller than a limit value so that an actual error did not occur (see col. 11, lines 30-34; col. 11, line 49 - col. 12, line 3; col. 12, lines 34-40; col. 12, line 56 - col. 13, line 41; col. 15, line 57 - col. 16, line 4; Figs. 2-6). Endo fails to disclose having the features a first output for outputting a corrected bit stream, wherein the corrected bit stream is obtained by removing redundancy from a received bit stream; and a second output for outputting an error signal indicating corrections made by the forward error correction decoder to obtain the corrected bit stream. However, the examiner maintains that the features a first output for outputting a corrected bit stream, wherein the corrected bit stream is obtained by removing redundancy from a received bit stream; and a second output

for outputting an error signal indicating corrections made by the forward error correction decoder to obtain the corrected bit stream was well known in the art, as taught by Tiedemann.

In the same field of endeavor, Tiedemann discloses the features a first output for outputting a corrected bit stream, wherein the corrected bit stream is obtained by removing redundancy from a received bit stream (see col. 6, lines 59-61; col. 7, lines 7-9,23-29,40-54; col. 5, lines 35-39; Fig. 3), where two outputs is provided by the decoder (56); and

a second output for outputting an error signal indicating corrections made by the forward error correction decoder (56) to obtain the corrected bit stream (see col. 6, lines 59-61; col. 7, lines 7-9,23-29,40-54; col. 5, lines 35-39; Fig. 3), where two outputs is provided by the decoder (56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Endo and Tiedemann to have the feature a first output for outputting a corrected bit stream, wherein the corrected bit stream is obtained by removing redundancy from a received bit stream; and a second output for outputting an error signal indicating corrections made by the forward error correction decoder to obtain the corrected bit stream, in order to provide timely power control that is necessary to provide robust communication link quality under fast fading conditions, as taught by Tiedemann (see col. 2, lines 49-51).

Response to Arguments

4. Applicant's arguments filed 29 June 2005 have been fully considered but they are not persuasive.

Examiner respectfully disagrees with applicant's arguments as the applied reference(s) provide more than adequate support and to further clarify (see the above claims and comments in this section).

5. Regarding applicant's argument of pg. 18, 3rd ¶, "...Endo fails to disclose setting an initial value of the transmission so that no pseudo errors are detected, and decreasing the transmission power gradually from the initial value when the pseudo error occurrence in an error-free reception does not fulfill a predetermined condition or increasing the transmission power by a predetermined amount when the pseudo error occurrence in the error-free reception fulfills the predetermined condition...", the Examiner respectfully disagrees. Endo discloses the features setting a field strength which reads on the claimed "initial value" of the transmission power so that no frame error which reads on the claimed "pseudo errors" are detected (see col. 13, lines 13, lines 2-18; col. 13, line 38 - col. 15, line 13; Figs. 3 "ref. 305", 4 "ref. 407, 408", 5-6), where the power is adjusted to a favorable level without errors,

decreasing the transmission power gradually from the initial value at the transmission end (201) when the pseudo error occurrence in an error-free reception does not fulfill a threshold value which reads on the claimed "predetermined condition" (see col. 12, line 56 - col. 13, line 41; Figs. 3, 4 "411", 5, 6 "616"), where the power is decreased to a lower level, or

increasing the transmission power by a predetermined amount when the pseudo error occurrence fulfills the predetermined condition in the error-free reception (see col. 12, line 56

- col. 13, line 38; col. 15, line 57 - col. 16, line 4; Figs. 3 "305", 4 "410", 5-6), where an error is detected and the power is increased.

6. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

7. Regarding claims 13-36, the claims are rejected the reasons as set forth above.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (571) 272-7907. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marsha D Banks-Harold

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WJD,JR
14 November 2005